

2/2 068

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0054632

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A MATH. ANAL. IS GIVEN OF
2-FREQUENCY LASERS, BASED ON THE EXACT SOLN. OF THE PROBLEM OF THE
EFFECT OF THE RADIATION UPON THE STATE AND PROPERTIES OF A QUANTUM
SYSTEM (P. A. APANASEVICH, A. S. BANKOVSKII, 1967). TWO SCHEMES FOR
2-FREQUENCY LASERS ARE DESCRIBED, THE PUMPING PROCESS OF WHICH
APPROACHED THAT OF GASEOUS LASERS. THE CALC. SHOWS THAT A QUANTUM
PROCESS LEADS TO A NON LINEAR DEPENDENCE OF THE LASER D. ON THE PUMPING
D.

UNCLASSIFIED

USSR

UDC 621.315.592

GRAMATSKIY, V. I., KARAMAN, N. I., MUSHINSKIY, V. P.

"Optical Absorption of Gallium Monotelluride"

Leningrad, Fizika i Tekhnika Poluprovodnikov, Vol 6, No 3, 1972, pp 550-552

Abstract: Results are presented from a detailed investigation of the absorption edge by measuring the transmission from which the width of the forbidden band (E_g), the binding energy of the excitons (G) and other parameters of GaTe are determined. The temperature dependence of the exciton band $n = 1$ was also investigated. The absorption spectra of GaTe and the isoabsorption lines are presented. The plotted data show that the absorption coefficient in the long wave region of the edge of the band ($n = 1$) is satisfactorily described by the exponential function

$$K = K_0 \exp \left[- \frac{\sigma(h\nu_0 - h\nu)}{kT} \right],$$

where K_0 and $h\nu_0$ are constants which are equal to $8.7 \cdot 10^9 \text{ cm}^{-1}$ and 1.837 electron volts respectively, σ is a dimensionless parameter characterizing the slope of the straight line $\lg K$. The isoabsorption curves for various values $1/2$

USSR

GRAMATSKIY, V. I., Fizika i Tekhnika Poluprovodnikov, Vol. 6, No 3, 1972, pp 550-552

of K from the long wave segment of the band indicate good convergence at the point $h\nu_0$. The parameter σ_0 is related to the exciton-phonon interaction constant g by the expression $\sigma_0 = 2g^{-1}/3$, from which the magnitude of the exciton-phonon coupling is 0.27. This indicates the weak nature of the exciton-phonon interaction in gallium telluride.

2/2

- 134 -

USSR

UDC: 621.315.592

KARAMAN, M.I. and MUCHINSKIY, V.P.

"Electroluminescence of Layered $\text{GaS}_x\text{Se}_{1-x}$ and $\text{GaSe}_x\text{Te}_{1-x}$ Crystals"

Leningrad, Fizika i Tekhnika Poluprovodnikov, Vol 4, No 4, 1970, pp 783-785

Abstract: An attempt is made in this communication to obtain preliminary information concerning the electroluminescent qualities of specially undoped crystals of $\text{GaS}_x\text{Se}_{1-x}$ and $\text{GaSe}_x\text{Te}_{1-x}$. For this purpose, large uniform crystals were obtained from which plates measuring 20 by 8 by 0.1 mm were split off. The electrodes were applied by sputtering in a vacuum of 10^{-5} mm Hg from Cu, Zn, In, Ag, and Au. The investigations were done in a cryostat at a temperature of 77°K for a constant electric field as well as in an electric field varying from 20 to 10^3 Hz. The radiation was focused by special condensers on the input slot of a ZMR monochromator with a glass prism. The output from the monochromator was recorded by photoelectric multipliers FEU-17 and FEU-22 with a detection system. A bright glow in the $\text{GaS}_x\text{Se}_{1-x}$ crystals was detected at 10^2 to 10^3 volts per centimeter; the radiation spectra of these crystals are given. With a transition from GaSe to GaS, a smooth shift of the radiation curves toward the short wavelengths was observed. The position of electroluminescent exciton band maxima for crystals similar in composition to GaS is in good agreement with the photoluminescent data for these crystals.

1/1

- 38 -

1/2 023 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--ELECTROABSORPTION OF GALLIUM SELENIDE SINGLE CRYSTALS -U-
AUTHOR--(02)--KARAMAN, M. I., MUSHINSKIY, V. P.
COUNTRY OF INFO--USSR *R*
SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(2), 424-5
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, CHEMISTRY
TOPIC TAGS--SINGLE CRYSTAL, CHEMICAL BONDING, DIELECTRIC CONSTANT, GALLIUM
COMPOUND, SELENIDE, BOND ENERGY

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1988/0572 STEP NO--UR/0449/70/004/002/0424/0425
CIRC ACCESSION NO--AP0105557
UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0105557

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CHANGE IN THE ABSORPTION COEFF., K , WAS DETD. FOR A GASE SINGLE CRYSTAL AND FOR SOLID SOLNS. DUE TO THE ACTION OF AN ELEC. FIELD. THE SPECTRAL DEPENDENCE OF K WAS FOUND IN THE ABSENCE OF A FIELD, AND THE CHANGE, ΔK , WAS MEASURED AT 77DEGREES K FOR A FIELD E EQUALS E_{SUBO} PLUS E_{SUBVAR} , WHERE E_{SUBO} IS THE CONST. COMPONENT AND E_{SUBVAR} IS THE VARIABLE COMPONENT OF THE FIELD. THE SPECTRAL DEPENDENCE OF ΔK OBTAINED AT E_{SUBO} EQUALS E_{SUBVAR} EQUAL 2.5 TIMES $10 \text{ PRIME}^3 \text{ V-CM}$ WAS USED TO CALC. THE WIDTH OF THE FORBIDDEN BAND (ΔE_{SUBG} EQUALS $2.109 \text{ PLUS OR MINUS } 0.002 \text{ EV}$) AND THE BOND ENERGY OF THE EXCITON (G EQUALS $0.021 \text{ PLUS OR MINUS } 0.002 \text{ EV}$) FROM THE POSITIONS OF THE 1ST, N EQUALS 1, AND 2ND, N EQUALS 2, NEG. MIN. THE EFFECTIVE MASS OF THE EXCITON, M EQUALS $0.15M_{SUBO}$, AND THE RADIUS OF THE 1ST BOHR ORBIT, α EQUALS 34 ANGSTROM , WERE CLACD. BY USING THE VALUE OF THE STATISTICAL DIELEC. CONST. FOR GASE, ϵ_{SUBO} EQUALS 9.8.

UNCLASSIFIED

172 036 UNCLASSIFIED PROCESSING DATE 2000.70
TITLE--EXCITATION AND PHOTOLUMINESCENCE SPECTRA OF GAS SUBX SE SUBI-X
CRYSTALS -U-
AUTHOR-(02)-KARAMAN, M.I., MUSHINSKIY, V.P. K
COUNTRY OF INFO--USSR
SOURCE--FIZ. TEKH. POUKPRCV. 1970, 4(3), 560-2
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--PHOTOLUMINESCENCE, SINGLE CRYSTAL, EXCITATION ENERGY, GALLIUM
SULFIDE, GALLIUM SELENIDE, ABSORPTION BAND SPECTRUM, ABSORPTION
COEFFICIENT, TEMPERATURE EFFECT, ACTIVATION ENERGY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/1307 STEP NO--UR/0449/70/004/003/0560/0562
CIRC ACCESSION NO--AP0124958
UNCLASSIFIED

2/2 036 UNCLASSIFIED PROCESSING DATE--20NOV70
CIRC ACCESSION NO--AP0124958
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE LUMINESCENCE OF SINGLE
CRYSTALS OF A CONTINUOUS RANGE OF SOLID SOLNS. OF GAS SUBX SE SUBI-X WAS
STUDIED AT 77DEGREESK. THE EXCITATION SPECTRUM CONSISTS OF 1 BROAD BAND
GRADUALLY BROADENING WITH TRANSITION FROM GAS TO GASE. FOR CRYSTALS
WHERE X IS SMALLER THAN OR EQUAL TO 0.5, LUMINESCENCE IN THE LONGWAVE
REGION ADJACINS THE EDGE OF THE ABSORPTION BANDS. THE LUMINESCENCE
CONSISTS OF 2 BANDS. SHORTWAVELENGTH BANDS OF MEDIUM INTENSITY HAVE
EXCITCN CHARACTER. THE STOKES DISPLACEMENT GRADUALLY DECREASES FROM GAS
TO GASE. IT IS 0.05 EV FOR GASE. USING MOTT'S FORMULA FOR THE
DEPENDENCE OF INTENSITY OF LUMINESCENCE ON TEMP., THE CALCD. ENERGY OF
ACTIVATION WAS 0.39 AND 0.37 EV FOR GAS AND GASE, RESP. FACILITY:
KISHINEV. GOS. UNIV., KISHINEV, USSR.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--PHOTOMAGNETIC EFFECT IN GALLIUM SELENIDE -U-
AUTHOR-(02)-KARAMAN, M.I., MUSHINSKIY, V.P. K
COUNTRY OF INFO--USSR
SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(5), 1002-4
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS
TOPIC TAGS--GALLIUM SELENIDE, SINGLE CRYSTAL, PHOTOMAGNETIC EFFECT,
PHOTOCONDUCTIVITY

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/0905 STEP NO--UR/0449/70/004/005/1002/1004
CIRC ACCESSION NO--AP0136339
UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0136339

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PHOTOMAGNETIC EFFECT (PME) AND THE PHOTOCOND. WERE STUDIED OF P-GASE SINGLE CRYSTALS (N EQUALS 2.6 TIMES 10 PRIME14 CM PRIME NEGATIVE3) PREPD. BY THE BRIDGMAN-STOCKBERGER METHOD. THE APPLIED MAGNETIC FIELD WAS SMALLER THAN 10 PRIME4 OE, SO THAT UH-C SMALLER THAN 1. THE SPECTRAL REGION OF PME LIES BEYOND THE EDGE OF THE PRINCIPAL ABSORPTION BAND OF GASE. THE SPECTRAL D DEPENDENCE OF PHOTOCOND. SHOWS A MAX. AT 610 MU, IMPLYING THAT THE RATE OF SURFACE RECOMBINATION IS NOT NEGLIGIBLE. THE SPECTRAL DEPENDENCE OF PME DECREASES UNIFORMLY TOWARDS THE LONGER WAVE BAND. THE DIFFUSION LENGTH OF THE CARRIERS L EQUALS 6.8 TIMES 10 PRIME NEGATIVES CM IS EVALUATED FROM 1-I SUBPME VS. 1-K PLOT (I SUBPME IS INTENSITY OF PME; K IS ABSORPTION COEFF.). THE RATIO OF U SUBPME AT THE MAX. TO THAT AT THE PLATEAU WAS USED TO CALC. THE RATE OF SURFACE RECOMBINATION S EQUALS 2.5 TIMES 10 PRIME3 CM-SEC AND THE LIFETIME OF THE ELECTRONS 2.3 TIMES 10 PRIME NEGATIVE8 SEC. FACILITY: KISHINEV. GOS. UNIV., KISHINEV, USSR.

UNCLASSIFIED

1/2 052 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--HIGH PRESSURE BALLOONS MADE FROM GLASS FIBER REINFORCED PLASTICS
-U-
AUTHOR--(05)--BIGULA, B.A., GUMENYUK, V.S., KARASH, N.P., KRISTUK, A.A.,
URBANSKIY, S.V.
COUNTRY OF INFO--USSR
SOURCE--MEKH. POLIM. 1970, 6(1), 149-52
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--HIGH PRESSURE, BALLOON, GLASS FIBER, REINFORCED PLASTIC,
MATERIAL DEFORMATION, MECHANICAL STRENGTH, TEST METHOD/(U)HC55 & 250
GLASS, (U)EF64 REINFORCED PLASTIC
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1994/0025 STEP NO--UR/0374/70/006/001/0149/0152
CIRC ACCESSION NO--AP0114425
UNCLASSIFIED

2/2 052

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0114425

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. CONSTRUCTION OF A FLATTENED
ELLIPSOID BALLOON PREPD. FROM HC55-6-250 GLASS REINFORCED EFB-4 IS
DESCRIBED. DEFORMATION, STRENGTH, AND CYCLIC TESTING DATA ARE GIVEN.
FACILITY: INST. MEKH., KIEV, USSR.

UNCLASSIFIED

USSR

UDC: 681.327.12

FRIDMAN, G. Kh., TSVETOV, Ye. R., KARAMNOV, V. I., GALUSHECHENKO, V. V.,
LOS', V. F.

"An Optical-Electronic Device for Pattern Recognition"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki,
No 32, Nov 71, Author's Certificate No 318967, Division G, filed 13 Apr 70,
published 28 Oct 71, p 151

Translation: This Author's Certificate introduces an optical-electronic device for pattern recognition which contains a coherent light source, collimator, transparency with recognition and reference patterns, Fourier transform lens, spatial light modulator, and photomultiplier, all located along an optical axis. The photomultiplier is connected to the signal input of a high-frequency filter. The device also contains an electronic oscilloscope. As a distinguishing feature of the patent, speed is increased and interference suppression is improved by using a synchropulse light pickup, a control voltage oscillator, and a series circuit comprised of a wide-band amplifier and a signal envelope detector. The spatial light modulator is made in the form of a photographic film carrying a hologram of a variable-period lattice wrapped around a transparent thin-walled cylinder rotated by an
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FRIDMAN, G. Kh., et al., Soviet Patent No 318967

electric motor. The photomultiplier is fastened on a fixed base inside the rotating cylinder. In the base of the cylinder is an opening for the synchro-pulse light pickup, which is connected to the input of the control voltage oscillator and to one of the inputs of the oscilloscope. The output of the controlling voltage oscillator is connected to the controlling input of the high-frequency filter. The output of this filter is connected to the input of the wide-band amplifier, and the signal envelope detector output is connected to the other input of the oscilloscope.

2/2

USSR

UDC 669.24/.25.053.4.094

SPITCHENKO, V. S., KARAMULLIN, S. A., TSEFT, A. L., ROMANTEYEV, Yu. P.

"Principles of Sulfuric Acid Leaching of Oxidized Nickel Ores"

Nauch. tr. Kazakhsk. Politekhn. In-t. [Scientific Works of Kazakh Polytechnical Institute], Alma-Ata, 1971, pp 521-525, (Translated from Referativnyy Zhurnal, Metallurgiya, No 5, 1972, Abstract No 5 G392 by G. Svodtseva).

Translation: Ni- and Co-containing minerals, α -kerolite, β -kerolite, nontronite, and psilomelane were taken for investigation. The consumption of acid was significantly greater than the required quantity for dissolution of all acid-soluble components in the mineral. The dissolution of Ni and Co from the ore and its component minerals occurs in the kinetic area. The similarity of the "apparent" activation energies of dissolution of Ni from the ore (14,460 cal/mol) and β -kerolite (14,300 cal/mol) and Co from the ore (12,820 cal/mol) and psilomelane (13,120 cal/mol) confirm the results of mineralogical studies, which indicated that the basic mineral containing Ni in the ore is β -kerolite, while the basic mineral containing Co is psilomelane. Three figures, 4 biblio. references.

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USSR

UDC 612.821.4

KARAMYAN, A. I., SOLLERTINSKAYA, T. N., and BALANOV, L. Ya., Institute of Evolutional Physiology and Biochemistry imeni I. M. Sechenov, Academy of Sciences USSR, Leningrad

"An Electrophysiological Analysis of the Psycholytic Action of Chlorpromazine and Barbamil"

Yerevan, Biologicheskii Zhurnal Armenii, Vol 25, No 6-7, Jun/Jul 72, pp 80-94

Abstract: Effects of chlorpromazine and barbamil on deep brain structures were studied on rabbits. Preliminary electrostimulation tests demonstrated that stimulation of the posterior and anterior hypothalamus, the reticular formation, and thalamic nuclei produced generalized exaltative reactions in the cortex specific to the particular formation stimulated. Moreover it was found that the nature of the reaction depends on the activity level of these structures. For example, stimulation of the reticular formation and posterior hypothalamus after prior, repeated stimulation of the anterior hypothalamus produces a reaction characteristic to stimulation of the anterior hypothalamus. Tests with the drugs themselves showed that chlorpromazine increases the activity of the anterior hypothalamus, causing diffuse inhibition of the brain's nonspecific systems: It decreases the activity of the brain stem reticular

1/3

USSR

KARAMYAN, A. I., et al., Biologicheskii Zhurnal Armenii, Vol 25, No 6-7, Jun/Jul 72, pp 80-94

formation, posterior hypothalamus, nonspecific thalamic nuclei, and caudate nuclei. Barbamil activates nonspecific thalamic systems and caudate nuclei, producing differential effects on brain activity: It decreases the activity of the brain stem reticular formation and posterior hypothalamus, blocks their communication with the neocortex, increases the activity of nonspecific thalamic nuclei and caudate nuclei, and facilitates pulse transmission both ways along corticothalamic routes. In both cases the affected structure dominates in response production as was noted with electrostimulation. Such changes in the source of generalized effects on the brain produced by the drugs are also reflected in changes of background activity and the nature of cortical reactions to afferent stimuli. For example in the presence of chlorpromazine, light, acoustic, and olfactory stimuli cause desynchronization of high-amplitude irregular slow waves, which is a reaction characteristic of a sensitized anterior hypothalamus. The animal's emotional responses to chlorpromazine and barbamil are identical to those produced by stimulating, respectively, the anterior hypothalamus on one hand and the nonspecific thalamic systems and caudate nuclei on the other. A comparison of these results with data obtained on human reactions supports the suggestion that when particular deep brain

2/3

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KARAMYAN, A. I., et al., Biologicheskii Zhurnal Armenii, Vol 25, No 6-7, Jun/
Jul 72, pp 80-94

structures are activated, they dominate other structures in affecting the cerebral cortex, causing particular emotional and behavioral responses. This study indicates the usefulness of employing psycholytic drugs in demonstrating the function of deep brain structures.

3/3

USSR

UDC 612.822.3.08

BATUYEV, A. S., VASILEVSKIY, N. N., ZIMENKO, N. V., TAIROV, O. P., and KARANYAN, L. A., Laboratory of the Physiology of the Motor Analysor, Physiological Institute imeni A. A. Ushtomskiy, Leningrad University, and Department of Ecological Physiology, Institute of Experimental Medicine, Academy of Medical Sciences USSR

"A Simple Method of Recording Cerebral Neuronal Activity in Alert Animals"

Leningrad, Fiziologicheskii Zhurnal SSSR imeni I. M. Sechenov, Vol 58, No 11, 1972, pp 1774-1776

Abstract: In preliminary surgery performed on the anesthetized animal, the head is held in a standard stereotaxic apparatus, the frontal bones (if the frontal cerebral lobes are to be investigated) are opened and the periosteum is removed, two screws are firmly implanted in each temporal bone, and the edges of the wounds are sealed with protacrylon. Penicillin is administered, and a certain period is allowed for recovery from surgery. Prior to the actual experiments, the animal is trained for several days to become accustomed to the motionless position in the modified stereotaxic instrument SEZh-1 or SEZh-2. During the test, the head is affixed to the stereotaxic instrument by means of the implanted screws. Holes are drilled in the frontal bones (painless

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USSR

BATUYEV, A. S., et al., Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenov, Vol 58, No 11, 1972, pp 1774-1776

because of absence of periosteum), a local anesthetic is applied to the dura mater, the meninges are pierced, the recording electrode is inserted into the brain (with one of the implanted screws serving as the indifferent electrode), and the edges of the wound are covered with warm vaseline or agar. After completion of the test and withdrawal of the electrode, the opening is sealed with wax or dental cement. If proper antiseptic measures are taken, one chronic animal can be used for over 2 months, with three experiments performed each week.

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USSR

UDC 621.791.754.293.011:669.71

KARAMYAN, R. S., Engineer, VOROPAY, N. M., Candidate of Technical Sciences, RABKIN, D. M., Doctor of Technical Sciences, Institute of Electric Welding imeni Ye. O. Paton

"Features of the Process of Arc-Welding Aluminum Alloys in Argon Under Elevated Pressure"

Moscow, Svarochnoye Proizvodstvo, No 1, Jan 70, pp 11-15

Abstract: Specimens of the AMg6 aluminum alloy were arc-welded in a protective atmosphere of argon under a pressure higher than atmospheric pressure to determine optimal conditions for this method of welding. It was found that before the welding chamber is filled with argon, it should be evacuated to about $(2-3) \cdot 10^{-2}$ mm Hg. Use of transformers with increased no-load voltage (up to 120 v) ensures reliable starting and burning of the arc at an argon pressure of 2--6 atm without decreasing the arc gap. The depth of weld penetration and the effective thermal power of the arc increase, and the zone of thermal effect becomes narrower, with the increased pressure of inert gas. Use of
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USSR

KARAMYAN, R. S., et al., Svarochnoye Proizvodstvo, No 1, Jan 70,
pp 11-15

controlled atmosphere of argon under elevated pressure in welding of aluminum alloys inhibits the development of pores in the crystallizing metal. Moreover, the mechanical properties and the density of welds increases, and their chemical composition approaches that of the parent metal. This welding method is recommended for joining cast aluminum parts, and for small articles made of alloys containing easily vaporizing elements.

2/2

1/2 036 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--THE PECULIARITIES OF TECHNOLOGY OF ARC WELDING OF THE ALUMINUM
ALLOYS IN ARGON AT ELEVATED PRESSURE -U-
AUTHOR--(03)-KARAMYAN, R.S., VOROPAY, N.M., RABKIN, D.M.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, SVAROCHNOYE PROIZVODSTVO, NO 1, 70, PP 11-15

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--ALUMINUM ALLOY, ARGON GAS WELDING, BIBLIOGRAPHY, INERT GAS ARC
WELDING, HIGH PRESSURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1996/2042

STEP NO--UR/0135/70/000/001/0011/0015

CIRC ACCESSION NO--AP0118996

UNCLASSIFIED

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CIRC ACCESSION NO--AP0118996
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--23OCT70

ABSTRACT. A STUDY WAS MADE OF THE PROBLEMS
DEALING WITH TECHNOLOGY, TECHNIQUES, AND EQUIPMENT USED IN THE PROCESS
OF WELDING OF ALUMINUM ALLOYS IN A CONTROLLED ATMOSPHERE AT ELEVATED
PRESSURE BY NONCONSUMABLE AND CONSUMABLE ELECTRODES. FACILITY:
INSTITUTE OF ELECTRICAL WELDING IMENI YE. O. PATON OF THE ACADEMY OF
SCIENCES UKRAINIAN SSR.

UNCLASSIFIED

1/2 026 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--SEARCH FOR SUPER HEAVY ELEMENTS IN NATURE: BASES AND PERSPECTIVES
-U-
AUTHOR-(02)-FLEROV, G.N., KARAMYAN, S.A. K
COUNTRY OF INFO--USSR, ITALY
SOURCE--JINR, P6, 4902 DEP. CFSTI (CONF-690945-1), FROM INTERNATIONAL
HENDELEEV CONGRESS, TURIN, ITALY
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, ASTRONOMY, ASTROPHYSICS
TOPIC TAGS--HEAVY NUCLEUS, ATOMIC MASS, ISOTOPE SEPARATION, COSMIC RAY,
STAR

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1992/0035 STEP NO--UR/0000/70/000/000/0001/0036
CIRC ACCESSION NO--AM0111235
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AM0111235

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EXISTENCE OF LONG LIVED SUPER
HEAVY ELEMENTS IN NATURE AND THEIR SYNTHESIS IN STARS ARE DISCUSSED.
THEORETICAL PREDICTIONS OF PHYSICAL AND CHEMICAL PROPERTIES OF THESE
ELEMENTS WERE ANALYZED. EXPERIMENTAL RESULTS OF THE SEARCH FOR
SUPERHEAVY ELEMENTS IN NATURE AND IN COSMIC RAYS ARE REVIEWED. THE
PERSPECTIVES OF DEVELOPMENT OF EXPERIMENTAL INVESTIGATIONS IN THIS
DIRECTION ARE CONSIDERED. FACILITY: JOINT INST. FOR NUCLEAR
RESEARCH, DUBNA, USSR. FACILITY: LAB. OF NUCLEAR REACTIONS.

UNCLASSIFIED

USSR

UDC 577.1:615.7/9

KIRICHEK, L. T., KARAMYSHEV, A. N., NALBAT, A. S., KOSENKO, P. I.,
KHARCHENKO, N. S.

"Some Aspects of the Systemic Toxic Action of Metaphos"

Farmakol. i toksikologiya. Resp. mezhved. sb. (Pharmacology and
Toxicology. Republic Interdepartmental Collection of Works), 1970,
No 5, pp 205-208 (from RZh-Biologicheskaya Khimiya, No 19, 10 Oct
70, Abstract No 19 F1803 by A. Ignat'yev)

Translation: After a single injection of rats, cats, and rabbits
with metaphos at doses of 1-1/2 LD₅₀, there are not only the speci-
fic toxic effects produced by the insecticide but changes in liver
function: decrease in total serum protein, dysproteinemia, decreased
cholinesterase activity in serum and liver tissue, positive thymol
test, change in duration of prothrombin time, decrease in glycogen
level of the liver, increased amount of protein in urine, decreased
diuresis after a water load, and histologic changes in all organs.

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USSR

UDC: 534.113:624.042.8

TSVENIASHVILI, D. Kh., ~~KARAMYSHKIN, V. V.~~, Moscow

"Dynamic Stability of Schematic Cantilever Under the Influence of a Tracking, Pulsating Load"

Kiev, Prikladnaya Mekhanika, Vol 6, No 11, 1970, pp 134-137

Abstract: The dynamic stability of a cantilever beam with a concentrated mass at the free end is studied under the influence of a tracking, harmonic load. The differential equation of motion considering the inertia of rotation of the load is solved by the method of expansion into trigonometric series. Expressions are produced for the construction of the areas of dynamic instability and it is demonstrated that the inertia of rotation of the load worsens the dynamic stability of the rod.

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USSR

UDC: 534.14

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KARAMYSHKIN, V. V., TYABLIKOV, Yu. Ye., Moscow

"Consideration of Energy Dissipation in Resonant Modes with Hydraulic Excitation"

Kiev, Problemy Prochnosti, No 9, 1970, pp 73-76

Abstract: A study is made of the possibility of maintaining stable oscillating modes in tests of models, structures and structural elements on vibrating test platforms at frequencies near the frequencies of natural oscillations of the objects being tested. The test object in this analysis is assumed to be a beam of constant cross section fastened to the vibrating platform. Then, considering the elastic-viscous nature of energy dissipation, an equation is written for the motion of the elements in the system and analyzed. It is found that at the resonant frequency of the rod under certain conditions the rod actually acts as a vibration damper.

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- 75 -

USSR

KARAMZINA, N. M., GRODETSKAYA, N. S., PAVLENKO, G. I.

"Interrelation at the Stage of Primary Reactions of the Organism of Processes of Adaptation and Chemical Interaction and Processes of Compensation of Subsequently Resulting Pathological Changes"

Sb. "Farmakol. Khimioterapevt. sredstva. Toksikol. Probl. toksikol, (Pharmacology of Chemically Therapeutic Substances. Toxicology. Problems in Toxicology--Collection of Works), T. 5 (Itogi nauki i tekhn. VINITI AN SSSR = Results in Science and Technology of the All-Union Institute of Scientific and Technical Information, Academy of Sciences of the USSR), 1973, pp 145-162 (from Referativnyy Zhurnal, 30F, Biologicheskaya Khimiya, No 18, 25 September 1973, abstract No 18F1747)

Translation: The primary reactions of animals to the action of Hg, CS₂, benzene, CCl₄, morpholine, dimethylformamide, ethylene oxide, bromoacetopropyl acetate, ethyleneimine, POCl₃, NaF, triphthazine, and monoallylamine and their effects on the function of the thyroid, adrenal, and pituitary glands were studied to determine the characteristic state of the nonspecific regulatory systems of the organism. The results permitted evaluation of the hygienically significant changes due to the action of different chemical compounds.

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USSR

UDC 577.1:615.7/9

KARAMZINA, N. M., and MEL'NIKOVA, L. V.

"Some Initial Reaction of the Animal Endocrine System to Repeated Exposure to m-Aminobenzotrifluoride at Low Concentrations"

V sb. Toksikol. novykh prom. khim. veshchestv (Toxicology of New Industrial Chemicals -- collection of works), No 12, Moscow, "Meditsina," 1971, pp 20-23 (from RZh-Biologicheskaya Khimiya, No 14, Jul 71, Abstract No 14 F1623)

Translation: Rats inhaled m-aminobenzotrifluoride (I, 0.0014 mg/l, once or 5 times for 4 hours a day). Thyroid function was judged from I^{131} uptake while the activity of the hypophyseal-adrenal system was evaluated from the amount of ascorbic acid in the adrenals and their weight factor. After exposure to I, the amount of I^{131} taken up was found to increase significantly from 20.9 to 29.5% 4 hours after a single exposure and from 21.4 to 26.3% 24 hours after 5 exposures. No changes were observed in adrenal function. The authors believe that the functional changes in the thyroid after 5 days' exposure to I are the initial manifestation of chronic poisoning.

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20 -

USSR

UDC 621.791:621.642.001.2

BOGOMOLOVA, A. S., Candidate of Technical Sciences, and BAKSHI, O. A., Doctor of Technical Sciences, Chelyabinsk Polytechnic Institute; SEDYKH, V. S., Doctor of Technical Sciences, and TRYKOV, YU. P. and BELOUSOV, V. P., Candidates of Technical Sciences, Volgograd Polytechnic Institute; BORISOVA, V. A., KARAN, A. B., POPOV, A. S., and SAPRYGIN, V. D., Engineers, Moscow

"Practical Design of Welded Vessels and Pipe From Dissimilar Materials"

Moscow, Svarochnoye Proizvodstvo, No 9, 1973, pp 3-6

Abstract: Welding tests were conducted for welding dissimilar materials to join dissimilar metals in the fabrication of vessels and pipe. A steel+copper+niobium+titanium joint was made from steel Kh18N10T, M1 copper, niobium, and OT4 titanium, and a magnesium alloy+titanium+aluminum+aluminum alloy joint was made from magnesium alloy MA2-1, VT1 titanium, Ad1 aluminum, and aluminum alloy AMg6. The goal of this work was to determine the proper materials which would yield a reliable diffusion barrier in the intermediate weld layers, and a joint with a strength equal to that of the base metal. Mathematical formulas are given for calculating the tensile and yield strengths of the soft sublayer and critical magnitude of relative thickness of the soft sublayer for which an equal-strength joint can be achieved. For the titanium-steel joint the

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USSR

BOGOMOLOVA, A. S., et al., Svarochnoye Proizvodstvo, No 9, 1973, pp 3-6

the relative thickness required for the copper sublayer was approximately 0.5 while this value for the magnesium-aluminum was not computed. 4 figures, 1 table, 12 bibliographic references.

2/2

- 70 -

USSR

K
UDC 621.791.052:621.313.23.002.612

VOLIKOVA, I. G., Candidate of Technical Sciences, KARAN, V. S., Union
Scientific Research Institute for Chemical Machine Building, and STROYEV, V. S.,
Engineer, Moscow Experimental Welding Plant

"The Effect of the Ferrite Phase on the Corrosion Resistance of Welded Kh18N10T
Steel Joints"

Moscow, Svarochnoye Proizvodstvo, No 3, Mar 70, pp 11-13

Abstract: The effect of the ferrite phase on the corrosion resistance of welded joints of Kh18N10T steel was investigated. Tests were carried out on 5.5 x 30-mm weld metal and welded samples cut from the two upper layers of ten-fold welds. The given ferrite quantity in the metal welded by electrodes made of test metals and various alloy compositions was achieved by varying the metallic Cr and FeNb content in the deposited composition. The ferrite content in the welded metal was determined by a volume method on a ballistic facility and in the weld metal by an alpha-phase-meter. The chemical composition of Kh18N10T steel is given in a table. The effect of the ferrite on the corrosion resistance of the welded metal was determined by a test in 65% boiling nitric acid (5 cycles of 48 hr), and also by the AM method (GOST 60 32-58), and in production on samples with transversal, longitudinal, and criss-cross welds.

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USSR

VOLIKOVA, I. G., et al, Svarochnoye Proizvodstvo, No 3, Mar 70, pp 11-13

The corrosion resistance was evaluated by weight-loss data and by metallographic analysis. The nature of the dissolution of welded metals produced by CrNi and standard electrodes in 65% nitric acid is discussed. The results show that the presence of titanium or niobium in a CrNi solid solution reduces its corrosion resistance. Tests conducted on welded samples by the An method showed that not a single sample was disposed toward intercrystalline corrosion. They also show that the presence of ferrite (regardless of quantity) in the welded alloys of Kh18Ni9Ti steel does not reduce its corrosion resistance in media. An increased niobium content in type-18-8 welded metal (with an Nb/C ratio of 12 or more) reduces its corrosion resistance. Orig. art. has: 2 figures, 4 tables, and 5 references.

2/2

- 72 -

USSR

UDC 539.3

KARANDAKOV, G. V., KEROPYAN, K. K., NAZATROV, V. M.

"Calculation of the Circular Anisotropy, Orthotropy and Isotropy of a Plate of Constant Rigidity on an Elastic Base by the Electric Modeling Method"

Tr. Novocherkas. politekhn. in-ta (Works of Novocherkassk Polytechnical Institute), 1972, No. 253, pp 66-71 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V170)

Translation: The possibility of applying multilayer grid electric models of biharmonic operators to calculate circular anisotropic, orthotropic and isotropic plates on a single-layer elastic base with two characteristics is established. The electrical models used in the paper are distinguished from the familiar models in that the biharmonic operators are directly modeled, not requiring their division into systems of second-order operators. 6 ref. Authors' abstract.

1/2 026 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--EFFECT OF TRINITROPHENYLATION OF MYOSIN ON THE ISOTOPIC EXCHANGE OF
OXYGEN IN THE MYOSIN ATP H SUB 2 PRIME 18 O SYSTEM -U-
AUTHOR--(03)-KULEVA, N.V., KARANDASHOV, E.A., PANTELEYEVA, N.S.

COUNTRY OF INFO--USSR

SOURCE--BIOKHEMIYA 1970, 35(1), 42-7

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--MUSCLE PHYSIOLOGY, ADENOSINE TRIPHOSPHATE, ORGANIC NITRO
COMPOUND, BENZENE DERIVATIVE, ORGANIC SULFUR COMPOUND, OXYGEN METABOLISM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1984/0862

STEP NO--UR/0218/70/035/001/0042/0047

CIRC ACCESSION NO--AP0055562

UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0055562

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE BINDING OF FREE NHSUB2 GROUPS BY 2,4,6-TRINI-TROBENZENESULFONATE (TNBS) IN MYOSIN ATPASE INHIBITED, BY 40-70PERCENT, THE ISOTOPIC O EXCHANGE REACTION CATALYZED BY MYOSIN DURING ATP HYDROLYSIS. HOWEVER TNBS TREATMENT ACTIVATED ATPASE IN THE PRESENCE OF MGPRIME2 POSITIVE 5-9-FOLD, DEPENDING UPON THE NO. OF BOUND NHSUB2 GROUPS. THE TNBS EFFECT OF ISOTOPIC O EXCHANGE AND ATPASE ACTIVITY WAS SIMILAR TO THAT OF ACTIN. CONFORMATIONAL CHANGES IN THE ACTIVE CENTER OF MYOSIN MAY OCCUR DURING FORMATION OF TRINITROPHENYLATED RESIDUES.

UNCLASSIFIED

USSR

UDC: 621.317.7(02)

KARANDEYEV, K. B., GRINEVICH, F. B., GROKHOL'SKIY, A. L. et al.

"Electronic High-Speed Balanced-Bridge Instruments"

Bystrodeystvuyushchiye elektronnyye kompensatsionno-mostovyye pribory (cf. English above), Moscow, "Energiya", 1970, 135 pp, ill. 35 k. (from RZh-Radio-tekhnika, No 12, Dec 70, Abstract No 12A294 K)

Translation: The book deals with monitoring and measuring equipment designed for measuring the components of impedance under a variety of experimental and production conditions. The time for a single measurement of impedance parameters may be reduced to hundredths of a millisecond, and measurement error may be held down to tenths of a percent. The principles of construction of high-speed electronic balanced-bridge instruments are set forth, their fundamental properties are outlined and their specific elements are given, and schematics are analyzed together with the characteristics of a number of specific devices. Annotation.

1/1

KARANDEYEVA, O. G.

RESPIRATION OF BOTTLE-NOSSED PORPOISES

Article by A. Z. Kojichinskaya, O. G. Karandeyeva, V. S. Melnikenko, R. M. Shaganov, S. K. Koshcheyeva and Yu. V. Stepanov. Kiev: Kiev, Bionika, Russian, No 5, 1971, 1st-vo "Naukova Dumka," pp 19-28]

JPRS 55942
15 May 72

The specialization of the respiratory system in cetaceans in a water medium resulted in profound anatomic and functional changes in this system. Despite the fact that the singularity of respiration of marine mammals is of the greatest interest to biologists, zoologists, physiologists and specialists in bionics, until recently information on the physiology of respiration of these animals was limited due to the lack of appropriate conditions, such as oceanariums, large marine aquaria and apparatus for specialized investigations, and also due to certain systematic difficulties which faced biologists in investigating the respiration of marine mammals. Even at the present time not only respiration in the broad sense of this word, but even the pulmonary respiration of cetaceans, which is easier to study, have not been investigated adequately. Although a number of review articles and sections in monographs have been devoted to this subject [1, 2, 5-9, 11-14, 16-20, 27-30, 32, 33, 35-37, 40-42], they give far more information on the ecology of these animals, the anatomy and histology of their organs of respiration than on physiology. Data on pulmonary and respiratory volumes, pulmonary ventilation, and on oxygen consumption have been obtained for a small number of small cetaceans [4, 15, 21-26, 31, 34, 36, 38]. But even in these animals such important indices as total lung capacity and its components, composition of alveolar air, physiologic dead respiratory space, and alveolar ventilation have not been determined experimentally. Data on them have been cited on the basis of speculative conclusions.

The literature contains no information on the mechanics of respiration of dolphins. There is virtually no precise information on respiration regimes and on the factors exerting

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UR 0482

3-70

Soviet Inventions Illustrated, Section I Chemical, Derwent,

238024 ELECTRICAL CONTACTS have their transient resistance reduced by heating them after degreasing, under a high vacuum at 400-1000°C for 1-2 hrs, after which the temp. is lowered to 50-200°C and maintained for not more than 8 hrs. at a pressure of not less than 0.5 atm. in the same gas medium in which the contacts are intended to operate. 23.1.67. as 1128391/24-7. A.M. LEPSKII et al Leningrad Industrial Union "Krasnaya Zarya". (11.7.69.) Bul.9/20.2 69. Class 21g, 21c. Int.Cl. H02c. H01h.

LD 4

AUTHORS: Lepskiy, A. M.; Karandina, V. A.; Vasil'yev, A. M.;
and Aleksandrova, G. F.

Leningradskoye Proizvodstvennoye Ob"edineniye "Krasnaya
Zarya"

19740021

USSR

UDC 636.083.37

KARANFILOV, N. I., Chairman of Kolkhoz imeni M. V. Frunze, Ovidiopol'skiy Rayon, Odesskaya Oblast, Honored Veterinarian, Ukrainian SSR, FAYTEL'BERG, R. O., Doctor of Medical Sciences, TKACHENKO, G. P., Candidate of Biological Sciences, Senior Scientific Associate, Odessa State University imeni M. I. Mechnikov, MEDVEDEVA, Ye. I., Doctor of Biological Sciences, PANCHENKO, K. A., PETRENKO, Ye. V., LUKINA, G. D., Senior Engineers, BOYKO, L. I., and SELICH, Ye. F., Engineers, Odessa Technological Institute of the Food Industry imeni M. V. Lomonosov

"The Effect of a Preparation Obtained From Algae (Phyllophora) Upon the Weight Gains and Blood Composition of Calves"

Moscow, Zhivotnovodstvo, No 3, Mar 72, pp 82-83

Abstract: A valuable preparation containing amino acids and peptides has been developed from industrial Phyllophora waste by the Odessa Technological Institute of the Food Industry (Author's Certificate No 287959). Employed as a fodder supplement, 4.5 kg of the preparation yield an incremental weight gain of 11.43 kg, in other words, 2.54 kg of meat for each kilogram of the preparation, which costs less than 30 kopeks. The erythrocyte number of the calves increases, as does the hemoglobin content and the total protein content. Additional testing is recommended.

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UDC 621.315.592

USSR

KARANOVA, YE. K., DEMAKOV, D. K., STARININ, K. V., STREL'TSOV, and KHAYBULLIN,
I. B.

"Study of Single-Crystal SiC Films Obtained by Bombardment of Si Single
Crystals With O^+ Ions"

Moscow, Doklady Akademii Nauk SSSR, Vol 200, No 4, 1971, pp 869-870

Abstract: The authors obtained SiC films by bombarding Si single crystals with atomic carbon ions with an energy of 40 kev and a dose of over 10^{17} ions/cm² at 600 and 700°. IR absorption spectra were used to identify the ion-implanted films with the SiC compound. Electron-diffraction studies made on the ion-implanted SiC layers by the reflection method showed that a temperature of 700° is necessary to create single-crystal SiC film by the ion bombardment method. To study the structure of the n-SiC-n- and p-Si hetero-junctions created by the ion method, measurements were taken of the photo-emf spectra and I-V characteristics of these junctions. The results indicate a correspondence between the real energy structure of the hetero-junction and the theoretical one. The method of creating heterostructures by ion irradiation makes it possible to create single-crystal layers of compounds of the implanted ion with atoms of the elements making up the sub-
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USSR

KARANOVA, YE. K., et al., Doklady Akademii Nauk SSSR, Vol 200, No 4, 1971,
pp 869-870

strate, even in the case of a great difference between the lattice constants
of the compound and those of the substrate.

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- 78 -

USSR

UDC 54-162.3

GINZBURG, F. L., KARANTSEVICH, T. S., and MAKSIMOV, V. F.

"The Problem of the Coprecipitation of Plutonium and Americium With a Precipitate of Barium Sulfate"

Leningrad, Radiokhimiya, Vol 15, No 4, 1973, pp 481-487

Abstract: The conditions for coprecipitation of americium and plutonium with BaSO_4 precipitate was investigated. It was shown that quantitative precipitation takes place from 0.001 M HNO_3 solution. Plutonium can be redissolved by treating the BaSO_4 precipitate with ≥ 1 M HNO_3 solution. Under these conditions the desorption of americium does not exceed 40-50%. Both americium and plutonium coprecipitated with BaSO_4 from nitrate solutions containing aluminum and lanthanum nitrates may be fully redissolved by treating the precipitate with ≥ 1 M HNO_3 .

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- 65 -

USSR

UDC: 681.332.65

ASOYAN, L. M., BELKIN G. G., GRIGORYAN, R. Kh., KARANYAN, K. Kh., ABADZHYAN, S. S., ~~GEVORKYAN, S. G.~~

"Parallel Barker Code to Parallel Binary Code Converter"

USSR Authors' Certificate No 249762, Filed 2 April 1968, Published 15 January 1970 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 10, 1970, Abstract No 123P, by L. Sh.)

Translation: The converter suggested contains a register, each digit of which with the exception of the low-order digit, is made of two flip-flops connected with buses corresponding to the subdigits of Barker code and logic circuits. The ones and zeros outputs of the flip-flops of each digit are connected to two pairs of AND circuits respectively. The outputs of the AND circuits of each pair are connected through an OR circuit and delay line to the inputs of the second flip-flop of the same digit. The output of the OR circuit connected to the ones output of the triggers of the digit in question is connected also to the AND circuits connected to the outputs of the second flip-flop of the next digit. The output of the OR circuit connected to the zero outputs of the flip-flops is connected to the AND circuit which is connected to the outputs

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USSR

ASOYAN, L. M., USSR Authors' Certificate No 249762, Filed 2 April 1968, Published 15 January 1970 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 10, 1970, Abstract No 123P, by L. Sh.)

of the first flip-flop of the next digit. The ones outputs of the low-order digit flip-flop and the second flip-flops of the next digits are used as outputs corresponding to binary code. The circuit suggested combines the functions of a Barker code to parallel binary code converter with the functions of memorization of the binary code. One illustration.

2/2

- 36 -

1/2 029 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--DIAGNOSTIC SIGNIFICANCE OF IN VITRO LEUCOCYTE LYSIS IN RHEUMATISM
-U-
AUTHOR--(02)-KARAPATA, A.P., VYSOTSKAYA, ZH.M.
COUNTRY OF INFO--USSR
SOURCE--VRACHEBNOYE DELO, 1970, NR 4, PP 28-30
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DIAGNOSTIC METHODS, LEUKOCYTE, RHEUMATIC DISEASE, ANTIGEN,
HEMOLYSIS, TEST

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1708

STEP NO--UR/0475/70/000/004/0028/0030

CIRC ACCESSION NO--AP0129078

UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129078

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LEUCOCYTOLYTIC PROPERTIES HAVE BEEN REVEALED OF EXTRACTS FROM ORGANS OF THOSE DYING FROM RHEUMATISM AS WELL AS OF THE HEMOLYSED BLOOD OF PATIENTS WITH ACTIVE RHEUMATISM. IT IS SUGGESTED THAT LYSIS OF LEUCOCYTES IN RHEUMATIC PATIENTS IS CAUSED BY A TISSUE ANTIGEN AND HEMOLYSED BLOOD AND MAY BE A SENSITIVE AND RATHER SPECIFIC TEST FOR ACTIVITY OF THE RHEUMATIC PROCESS. THE TEST IS RECOMMENDED FOR WIDE USE BECAUSE OF ITS SIMPLICITY. FACILITY: KIYEVSKIY NAUCHNO ISSLEDOVATEL'SKIY INSTITUT KLINICHESKOY MEDITSINY IM. AKAD. N. D. STRAZHESKO.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--ON AUTOGENIC DEVELOPMENT OF OVARIES IN SOME SPECIES OF MOSQUITOES
OF TURKMENIA -U-
AUTHOR-(02)-BABAYANTS, G.S., KARAPETYAN, A.B. *K*
COUNTRY OF INFO--USSR
SOURCE--MEDITSINSKAYA PARAZITOLOGIYA I PARAZITARNYYE BOLEZNI, 1970, VOL
39, NR 1, PP 24-29
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--MOSQUITO, POPULATION LEVEL

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1985/0409 STEP NO--UR/0358/70/039/001/0024/0029
CIRC ACCESSION NO--AP0100891

UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0100891

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. OBSERVATIONS OF FEMALE MOSQUITOES OF 12 POPULATIONS BELONGING TO 10 SPECIES IN TURKMENIA PROVED FOR THE FIRST TIME THE CAPACITY FOR AUTOGENIC OVOGENESIS IN *UR. UNGUICULATA* EDW., *A. PULCHERRIMUS* THEOB., *ALLOTHEOB. LOGIAREOLATA* MACQ. IN THE MOSQUITO FAUNA OF TURKMENIA AUTOGENIC POPULATIONS OF *AE. CASPIUS* PALL., *CULEX PUSILLUS* MACQ., *C. MODESTUS* FIC., *C. PIPIENS*, *CULISETA ANNULATA* SUBOCHREA EDW. WERE REVEALED. THE CAPACITY OF AUTOGENIC OVOGENESIS WAS FOUND TO BE MOST INHERENT IN POPULATION OF MOSQUITOES INHABITING HOT DRY DESERTS.

UNCLASSIFIED

USSR

UDC 658.512.2:681.3(024)

KARAPETYAN, A. M.

Avtomatizatsiya Optimal'nogo Konstruirovaniya Elektronnykh Vychislitel'nykh Mashin (Automation of Optimal Electronic-Computer Design), Moscow, "Sov. Radio" (Soviet Radio), 1973, 152 pp, ill., Annotation p 2, Table of Contents p 150

Translation of Annotation: The book discusses questions relating to the optimization of computer design on the basis of a number of generalized criteria characterizing thermal conditions, reliability, technological qualities, etc. Light is shed on various directions taken in optimization and on the nature and peculiarities of generally accepted methods for the automation of design planning. Algorithms are presented for typical problems in the design of subassemblies, blocks, and racks.

The book is intended for computer designers engaged in the automation of design planning, as well as for university students in the specialties in question.

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USSR

KARAPETYAN, A. M., Avtomatizatsiya Optimal'nogo Konstruirovaniya Elektronnykh Vychislitel'nykh Mashin, Moscow, "Sov. Radio," 1973, 152 pp

CONTENTS

	<u>Page</u>
INTRODUCTION.....	3
1. BASIC PROBLEMS IN DESIGN PLANNING	
1.1. General Questions in Computer Design and the Design Hierarchy.....	7
1.2. Problem of the Optimization of Computer Design.....	9
1.3. Basic Problems in Module Design.....	17
2. SELECTION OF PERFORMANCE INDICES IN DESIGN PLANNING AND THEIR RELATION TO EFFICIENCY	
2.1. Basic Performance Indices of Design Planning and Their Classification.....	26

2/5

USSR

KARAPETYAN, A. M., Avtomatizatsiya Optimal'nogo Konstruirovaniya Elektronnykh Vychislitel'nykh Mashin, Moscow, "Sov. Radio," 1973, 152 pp

	<u>Page</u>
2.2. Requirements Set for Performance Indices and Efficiency in Design Planning.....	30
2.3. Selection of Generalized Performance Indices in Module Design Planning.....	36
3. EMPLOYMENT OF AUTOMATED DESIGN-PLANNING SYSTEMS IN COMPUTER OPTIMIZATION	
3.1. Comprehensive Systems of Planning Automation, and the Peculiarities of Algorithms Allowing for the Requirements of Different Stages.....	59
3.2. Structure of Algorithms for Module Optimization in Accordance with Generalized Indices.....	69
3.3. Problem of Placement of Computer Modules and Wiring with Allowance for Speed and Noise Immunity Limitations.....	76

3/5

USSR

KARAPETYAN, A. M., Avtomatizatsiya Optimal'nogo Konstruirovaniya Elektronnykh Vychislitel'nykh Mashin, Moscow, "Sov. Radio," 1973, 152 pp

	<u>Page</u>
3.4. Allowance for Reliability-Thermal Indices in Module Placement.....	81
4. DESIGN OPTIMIZATION IN DESIGNING THE ASSEMBLY AND SWITCHING OF MODULES	
4.1. Algorithms for Module Placement.....	92
4.2. Peculiarities of Placement Algorithms in the Multi- purpose Optimization of Modules.....	96
4.3. Comprehensive Algorithms for Placement of First- and Second-Level Modules.....	100
4.4. Algorithms for Placement of Third- and Fourth- Level Modules in Accordance with Thermal Index.....	114
4.5. Comprehensive Algorithms for Third- and Fourth- Level Module Placement.....	122

4/5

USSR

KARAPETYAN, A. M., Avtomatizatsiya Optimal'nogo Konstruirovaniya Elektronnykh Vychislitel'nykh Mashin, Moscow, "Sov. Radio," 1973, 152 pp

4.6. Methods for Solving Problems in the Layout of Printed Circuits and Wiring.....	<u>Page</u> 136
BIBLIOGRAPHY.....	143
SUBJECT-MATTER INDEX.....	147

5/5

USSR

UDC 621.383.8

BUTSLOV, M. M., Doctor of Sciences, GORNOSTAYEV, V. A., KARAPETYAN, B. O.,
MARKOV, A. A., Doctor of Sciences, SMOLKIN, G. Ye., Doctor of Sciences, and
SOFIYEV, G. N., Candidate of Sciences

"Electron-Optical Pulse Apparatus for Astronomical Investigations"

Leningrad, Optiko-Mekhanicheskaya Promyshlennost', No 10, Oct 72, pp 54-56

Abstract: A study is made of the problems to develop an installation for the investigation of astronomical objects with transitional radiation on the basis of pulsed cascade image converter tubes. This installation must be applicable for the solution of a large circle of astronomical problems requiring short-term exposures. The demands made to the principal parameters of a similar installation are indicated. The installation and the generator of frame scanings (GFS) and shutter pulses are described by reference to the flow chart and the functional diagram. The results of testing the GFS by making use of a PIM-3 type converter are presented in form of frequency-contrast characteristics. The latter give an idea of the contrast transfer in the whole range of frequencies. Four illustr., six biblio. refs.

1/1

Molecular Physics

USSR

UDC 535.373.2

ANTIPENKO, K. M., DMITRYUK, A. V., ZUBKOVA, V. S., KARAPETYAN, G. O., and
MAK, A. A., Institute of Precision Mechanics and Optics

"Cooperative Processes in Activated Glasses"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol 37, No 3, 1973,
pp 466-469

Abstract: Cooperative phenomena were found and studied in glasses activated with Yb--Tb, Yb--Eu. It is shown that there are at least two mechanisms for anti-Stokes excitation of the Tb^{3+} and Eu^{3+} ions: fast (cooperative sensitized luminescence) and slow (combinational excitation). Some quantitative parameters of the cooperative processes were determined. A study was made of the functional dependence of the efficiency of the cooperative processes on excitation power and energy, glass structure and composition, temperature, and activator concentration ratio. It is shown that disorder of the structure of the glasses does not prevent the occurrence in them of cumulative processes such as cooperative sensitization and combinational excitation, the efficiency of the cumulative processes in the glasses being commensurable with the efficiency of two-photon absorption with the participation of the virtual level.

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USSR

UDC 535.376:666.265

GAVRILENKO, T. B., KARAPETYAN, G. O., KACHIBAYA, V. N.

"Cathodoluminescence of Terbium-Activated Glasses" :

Minsk, Zhurnal Prikladnoy Spektroskopii (Journal of Applied Spectroscopy), Vol 15, No 4, Oct 71, pp 663-666

Abstract: Terbium-activated, multicomponent silicate and borate glasses are studied to compare their cathodoluminescence and photoluminescence spectra. Measurement of the temperature dependence of the emission line at 432 nm makes it possible to determine the temperature of the sample during excitation of cathodoluminescence.

Cathodoluminescence, light emission, photoluminescence, extinction times, and the temperature dependence of the spectra were measured. For high terbium concentrations intense lines appear at 542 and 549 nm; for low concentrations prominent lines are seen at 400 to 500 nm and 520 to 620 nm. The short wavelength group is brighter in photoluminescence than in cathodoluminescence, probably due to temperature quenching.

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USSR

GAVRILENKO, T. B. et al, Zhurnal Prikladnoy Spektroskopii, Vol 15, No 4, Oct 71, pp 663-666

Measurement of temperature dependence of photoluminescence in low concentration samples shows that the most intense short wavelength group is quenched almost completely at $\sim 110^{\circ}\text{C}$. This permits indirect determination of sample temperature from the weakening of cathodoluminescence.

In both cathodo- and photoluminescence spectra the intensity of the short wavelength group decreases with increase in terbium concentration. Peak light emission is obtained with glass consisting of $20\text{Li}_2\text{O} \cdot 10\text{Al}_2\text{O}_3 \cdot 50\text{SiO}_2 \cdot 20\text{BaO}$ (mol%) and 10% by weight of Tb_2O_3 . Higher concentrations of Tb_2O_3 decrease light output because of concentration extinction.

The authors thank V. V. Kuprevich for valuable discussions. Orig. art has 3 figs., 1 table, and 4 refs.

2/2

- 117 -

USSR

KARAPETYAN, G. O.; RAABEN, E. L.; KHUDOLEYEV, A. G.

"Optical Absorption Spectra of Hexavalent Chromium in Nitrate Glasses"

Minsk, Zhurnal Prikladnoy Spektroskopii; January, 1971; pp 82-5

ABSTRACT: The optical absorption spectra of hexavalent chromium in glasses with a content of $50 \text{ Mg(NO}_3)_2 \cdot 50 \text{ K}_2\text{O}_3$ are studied. By means of experimental data the molar extinction coefficient ϵ and the oscillator strength f for the observed absorption band at 27300 cm^{-1} are calculated. These are:

$\epsilon = 16200$, $f = 0.774$. The absorption band for 27300 cm^{-1} , in accordance with the oscillator strength and the diagram of the Ballhausen and Liehr molecular orbitals for the tetrahedral complex CrO_4^{2-} (J. Mol. Spectroscopy,

1/2

USSR

KARAPETYAN, G. O., et al, Zhurnal Prikladnoy Spektroskopii; January, 1971;
pp 82-5

2, 342, 1958), is interpreted as corresponding to the orbital allowable transition ${}^1A_1 \rightarrow {}^1T_2$ with nonconnection $t_1(\pi)$ of the orbital with the antibonding orbital $e^*(\pi)$. It is shown that the degree of covalent bonding of the activator ligand in nitrate glasses is greater than in silicate glasses and that the π -bonds play a significant role in the complex CrO_4^{2-} .

The article includes two equations, one table, and two figures. There are 12 references.

2/2

- 174 -

USSR

UDC 621.396.677.833.3

BAKHRAKH, L. D., KARAPETYAN, K. Ye.

"On Calculation of Two-Reflector Antennas"

Izv. AN ArmSSR. Fizika (News of the Academy of Sciences, Armenian SSR. Physics), 1971, 6, No 1, pp 26-33 (from RZh-Radiotekhnika, No 7, Jul 71, Abstract No 7B68)

Translation: The authors consider problems of the applicability of the method of "beam treatment" (the concept of rays, Snellius' laws, the girder principle, etc.) to the investigation of fields. The function $f(\vec{E}_0, \vec{H}_0, \Delta\psi)$ is introduced, which is zero when \vec{E}_0, \vec{H}_0 satisfy the eikonal equation. A two-reflector parabolic antenna is considered. The small reflector of the antenna is calculated by the wave front method. This reflector must provide correction for diffraction fringe effects. A numerical example is presented for calculation of such a correcting reflector. A study is made of the field reflected from the small correcting reflector in a two-reflector antenna for applicability of beam treatment to the reflector. Three illustrations, two tables, bibliography of one title. Resumé.

1/1

- 8 -

USSR

UDC 538.311.621. 396. 671.001.24

BAKHRAKH, L. D., and KARAPETYAN, K. YE., Armenian Division of Radiophysical Measurements, All-Union Scientific Research Institute of Physicotechnical and Radiotechnical Measurements

"Calculation of Two-Reflector Antennas"

Yerevan, Izvestiya Akademii Nauk Armyanskoy SSR, Vol 6, No 1, 1971, pp 26-33

Abstract: The article considers questions of the applicability of the concept of geometrical optics (the concept of rays, Fermat's principle etc.) to electromagnetic fields. The functional $f(\vec{E}_e, \vec{H}_e, \nabla \psi)$ is introduced which, given \vec{E}_e, \vec{H} satisfying the eikonal equation, is identically equal to zero.

A two-reflector parabolic antenna is considered in which the small reflector corrects for edge diffraction loss. A numerical example is given of the calculation of such a correcting reflector by the wave front method on a "Razdan 2" computer or by solving an ordinary differential equation of the first

1/2

USSR

BAKHRAKH, L. D., and KARAPETYAN, K. YE., Izvestiya Akademii Nauk Armyanskoy SSR, Vol 6, No 1, 1971, pp 26-33

order. It is shown that the ray interpretation is applicable to fields reflected by the small reflector and the method of wave fronts and differential equations is applicable to the calculation of reflectors which correct edge diffraction.

2/2

- 37 -

Molecular Biology

USSR

UDC 547.963.3

GALOYAN, A. A., ZAKHARYAN, R. A., KARAPETYAN, L. A. and MANUKYAN, E. B.,
Institute of Biochemistry, Armenian SSR Academy of Sciences

"The Action of Dexamethazone (16-alpha-methyl-9-alpha-fluorprednisolone) on
the Nucleotide Composition of the Nucleolus-Chromosome RNA of the Brain"

Yerevan, Doklady Akademii Nauk Armyanskoy SSR, Vol 56, No 5, 1973, pp 308-
311

Abstract: The changes in the nucleotide composition of the nucleolus-chromosome RNA of whole rat brains under the influence of the prednisolone analogue dexamethazone were studied. The rats were decapitated four hours after dexamethazone introduction and the brain RNA was obtained by thermal phenol fractionation. The phenol-water interface was used to obtain the total nucleolus-chromosome RNA. It was observed that the coefficient of specificity G+C/A+U was increased for the experimental animals, which is said to indicate a sharp lowering in the quantity of DNA-like RNA. These results are considered to show that dexamethazone inhibits DNA-like RNA synthesis, acting on the genome level to delay the synthesis of informational RNA responsible for the formation of a corticotropin-liberating hormone of a polypeptide nature.

1/1

USSR

UDC 621.382.3

KARAPET'YAN, L.M., KOROLEV, G.V.

"Computation Of Some Parameters Of A Transistor In A Microregime"

Tr. NII gidrometeorol. priborstr. (Works Of The Scientific-Research Institute Of Hydrology Instrument Manufacture), 1970, Issue 23, pp 92-96 (from RZh--Elektronika i yeye primeneniye, No 1, January 1970, Abstract No 1B198)

Translation: In the paper a computation is performed for the differential resistance and diffusion capacitance of the emitter junction of a transistor in a microregime. Formulas for the above parameters are substantially simplified during notation with the aid of a coefficient depending on the emitter current. In the work, a formula for computation of this coefficient is developed and checked. 1 ill. 2 ref. Summary.

1/1

- 87 -

1/2 016
UNCLASSIFIED
TITLE--FURAN OR ITS ALKYL OR CHLORO DERIVATIVES -U- PROCESSING DATE--04DEC70
AUTHOR--(03)-KURGINYAN, K.A., KARAPETYAN, N.G., KARAPETYAN, R.G.
COUNTRY OF INFO--USSR
SOURCE--U.S.S.R. 265,119
REFERENCE--OTKRYTIYA., IZGBRET, PROM, OBRAZTSY, TOVARNYE ZNAKI, 1970 47
DATE PUBLISHED--09MAR70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--FURAN, ALKYL RADICAL, CHLORINATED ORGANIC COMPOUND, CHEMICAL
PATENT, ORGANIC SYNTHESIS, CATALYST REGENERATION, OXIDATION, BUTADIENE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3007/0864
STEP NO--UR/0482/70/000/000/0000/0000
CIRC ACCESSION NO--AA0136298
UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AA0136298

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FURAN OR ITS ALKYL OR
CHLOROANALOGS IS PREPD. BY OXIDIZING A DIOLEFIN (E.G. BUTADIENE) WITH A
CATALYTIC MIXT. OF AN AQ. SOLN. OF CU PRIME2POSITIVE AND PO CHLORIDE
WITH THE PH OF THE CATALYTIC SOLN. 0.1-0.5 AND AT 60-110DEGREES. TO
ENSURE CONTINUITY OF THE PROCESS THROUGH REGENERATION OF CUCL SUB2 AND
REDN. OF THE INITIAL ACIDITY OF THE CATALYTIC SOLN., THE REACTION TAKES
PLACE IN THE PRESENCE OF AIR.

UNCLASSIFIED

Acc. Nr:

AP0046557

Ref. Code: UR 0216

PRIMARY SOURCE: Izvestiya Akademii Nauk SSSR, Seriya
Biologicheskaya, 1970, Nr 1, pp 127-129

N. P. LYOV, V. I. LYUBIMOV, N. V. KARAPET'YAN

PECULIARITIES OF THE OXIDATION METABOLISM AND NITROGEN FIXATION
IN MYCOBACTERIUM AZOT—ABSORPTUM N. SP.

A. N. Bach Institute of Biochemistry, Academy of Sciences, USSR

The experiments carried out on suspensions of non dividing cells have shown that the nitrogen-fixing Mycobacterium azot-absorptum oxidates the most important compounds of the tricarboxylic acids cycle and possesses a cytochromes set characteristic of aerobic microorganisms. However N_2 fixation in this microorganism proceeds more energetically under anaerobic or microaerophilic conditions.

11
REEL/FRA
19781820

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1/2 016
TITLE--FURAN OR ITS ALKYL OR CHLORO DERIVATIVES -U- UNCLASSIFIED PROCESSING DATE--04DEC70
AUTHOR--(03)--KURGINYAN, K.A., KARAPETYAN, N.G., KARAPETYAN, R.G.
COUNTRY OF INFO--USSR
SOURCE--U.S.S.R. 265,119
REFERENCE--OTKRYTIYA., IZOBRET, PROM, OBRAZTSY, TOVARNYE ZNAKI, 1970 47
DATE PUBLISHED--09MAR70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--FURAN, ALKYL RADICAL, CHLORINATED ORGANIC COMPOUND, CHEMICAL
PATENT, ORGANIC SYNTHESIS, CATALYST REGENERATION, OXIDATION, BUTADIENE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3007/0864 STEP NO--UR/0482/70/000/000/0000/0000
CIRC ACCESSION NO--AA0136298
UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AA0136298

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FURAN OR ITS ALKYL OR
CHLOROANALOGS IS PREPD. BY OXIDIZING A DIOLEFIN (E.G. BUTADIENE) WITH A
CATALYTIC MIXT. OF AN AQ. SOLN. OF CU PRIME2POSITIVE AND PD CHLORIDE
WITH THE PH OF THE CATALYTIC SOLN. 0.1-0.5 AND AT 60-110DEGREES. TO
ENSURE CONTINUITY OF THE PROCESS THROUGH REGENERATION OF CUCL SUB2 AND
REDN. OF THE INITIAL ACIDITY OF THE CATALYTIC SOLN., THE REACTION TAKES
PLACE IN THE PRESENCE OF AIR.

UNCLASSIFIED

USSR

UDC 591.513

KARAPETYAN, S. K., and ARSHAKYAN, A. V., Physiology Institute imeni L. A. Orbeli, Academy of Sciences Armenian SSR

"New Experimental Data on Residual Conditioned Reflexes in Domestic Fowl"

Yerevan, Biologicheskii Zhurnal Armenii, Vol 26, No 9, 1973, pp 64-69

Abstract: Studies were conducted on chickens to determine the effects of artificial day-night schemes on the formation of sequential conditioned food reflexes. One group of three chickens from the first postnatal day was maintained in an environment in which two astronomical days were modified into three days (12 hours of "day" and four hours of "night") by artificial lighting. Another group of three chickens were raised under normal conditions and served as controls. Analysis of the results showed that the appearance of residual conditioned food reflex in the experimental group was significantly delayed: with a 10 sec interval between sequences the mean delay time was 5.80 ± 0.79 sec for the sequence reflex. Infrequently, the experimental group exhibited a complete or partial loss of the conditioned reflex. In the control birds the mean delay time was 2.58 ± 0.72 , a statistically significant difference ($p < 0.01$).

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- 7 -

Acc. Nr.

AP0041531

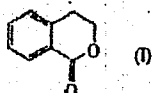
Abstracting Service:
CHEMICAL ABST.

4/70

Ref. Code

UR0366

89985g Styrene derivatives. XV. Synthesis of 2-vinylbenzoic acid and its derivatives. Pogosyan, G. M.; Karapet-
yan, T. G.; Matsoyan, S. G. (Inst. Org. Khim., Erevan,
USSR). Zh. Org. Khim. 1970, 6(1), 139-41 (Russ). The con-
densation of $\text{PhCH}_2\text{CH}_2\text{OH}$ with HCHO in the presence of HCl ,
followed by oxidn. gives isochroman-1-one (P. Maitte, 1961)
(I). Heating I with KOH powder at $175-80^\circ$ gave $\phi\text{-H}_2\text{C:CH-}$



$\text{C}_6\text{H}_4\text{COX}$ ($\text{X} = \text{OK}$) (II), which was converted to II (X is OH).
Std. reactions applied to II (X is OH or Cl) gave other II (X is
 OMe , OPh , NH_2 , NHMe , NMe_2 , or NHPh). CPJR

REEL/FRAME

19751399

USSR

UDC: 624.012:539.4

PINADZHYAN, V.V. and KARAPETYAN, V.A.

"Elastic and Ultimate Deformations of Light Concretes With Natural Aggregate at Short Duration Compression and Bending"

Yerevan, Nauch. Svobshch. Arm. NII Stroit. Materialov i Sooruzh.
(Scientific Reports of Armenian Research Institute on Construction Materials and Structures), 1972, vyp 29, pp 14-26 (from Referativnyy Zhurnal-Mekhanika, 1973, Abstract No 2V937 by the authors)

Translation: Results are presented of determination of ultimate deformations of light concretes, aged three to six months, containing lithoidal pumice, subject to compression and bending. Direct measurements established that relative ultimate deformations of centrally compressed prisms and of compressed zone of concrete in transversally reinforced beams are 160×10^{-5} with concrete mark 150 and 250×10^{-5} with mark 350-400. Stress-strain relations for compressed concretes are presented. Ductile failure of medium mark (M-150)

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USSR

PINADZHYAN, V. V. and KARAPETYAN, V. A., Nauch. Svobshch. Arm. NII Stroit. Materialov i Sooruzh., 1972, vyp 29, pp 14-26

concrete and brittle failure of relatively high mark (M-350) concrete are pointed out. Poisson ratio of light concrete underbending with stresses not exceeding one half of the ultimate is 0.5 for marks 150-400; in the state close to failure it is 0.25 for mark 150 concrete, 0.4 for mark 350 to 400. 5 references.

2/2

- 25 -

USSR

UDC 624.07

PINADZHYAN, V. V., ~~KARAPETYAN, V. A.~~, Armenian Scientific Research Institute of Building Materials and Structures

"On the Magnitude of the Initial Elasticity Modulus of Light Concretes"

Yerevan, Izvestiya Akademii nauk Armyanskoy SSR, Seriya tekhnicheskikh nauk, No. 4, 1971, pp 23-26

Abstract: Formulas used for obtaining the initial elasticity modulus for heavy and light concretes that are used in current standards for the design of concrete and reinforced concrete structures are discussed. The Graffe-Roche formula

$$E = 550,000 K_1/l + 270 K_2/R$$

is recommended for both heavy and light concretes. In the above formula R is the block strength of the concrete and K_1 and K_2 are correction coefficients. Tables are given for the values of the coefficients K_1 and K_2 of the basic types of light concrete with natural and artificial fillers. The initial

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USSR

PINADZHYAN, V. V., KARAPETYAN, V. A., Izvestiya Akademii nauk Armyanskoy SSR,
Seriya tekhnicheskikh nauk, No. 4, 1971, pp 23-26

elastic modulus is also given as a function of the ground strength of the
concrete in the form

$$E = 550,000 \cdot K_1 / 1 + 270 K_2' / R_{gr}$$

where R_{gr} is the ground strength of the concrete and $K_2' = K_2 \cdot R_{gr} / R$.

029

UNCLASSIFIED

PROCESSING DATE--18SEP70

TITLE--OPTICAL CONSTANTS, LUMINESCENCE, AND INDUCED RADIATION OF LANTHANUM
NIOBATE SINGLE CRYSTALS ACTIVATED BY NEODYMIUM -U-
AUTHOR--(05)-BAKHSHIYEVA, G.F., KARAPETYAN, V.YE., MOROZOV, A.M., MOROZOVA,
L.G., TOLSTOY, M.N.
COUNTRY OF INFO--USSR

SOURCE--OPT. SPEKTROSK. 1970, 28(1), 76-81

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--SINGLE CRYSTAL, OPTIC PROPERTY, THERMAL EFFECT, LUMINESCENCE,
ANISOTROPY, LANTHANUM COMPOUND, NIOBATE, CRYSTAL STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1980/1315

CIRC ACCESSION NO--AP0049477

STEP NO--UR/0051/70/028/001/0076/0081

UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0049477

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LANBO SUB4 SINGLE CRYSTALS DIAM. 8-15, LENGTH 70 MM WERE ISOLATED FROM THE MELT AFTER HIGH TEMP. TREATMENT OF LANBO SUB4 IN INERT ATM. UNACTIVATED CRYSTALS AND CRYSTALS ACTIVATED WITH 1 MOLE PERCENT ND PRIME3 POSITIVE WERE STUDIED. UNACTIVATED CRYSTALS ARE TRANSPARENT IN THE RANGE 0.27-6.5MU; THE LIGHT ABSORPTION IN THE RANGE 6.5-9.0 MU CORRESPONDS TO THE VIBRATIONAL FREQUENCIES OF NBO SUB4 TETRAHEDRONS. N WAS OBTAINED AT 5 WAVELENGTHS IN THE RANGE 435.8-656.3 MMU. STRONG BIREFRINGENCE WAS OBSD. ACTIVATION OF THE SINGLE CRYSTALS WITH ND PRIME3 POSITIVE CAUSED STRONG ANISOTROPY OF THE CRYSTALS. LUMINESCENCE SPECTRA WERE RUN AT 77DEGREESK. THE LUMINESCENCE DURATION WAS 120 MUSEC AT ROOM TEMP.; IT DID NOT CHANGE ON HEATING OF THE ACTIVATED SINGLE CRYSTAL TO 250DEGREES. THREE AXIAL ELLIPSOIDS WERE CONSTRUCTED FOR THE SEP. LINES IN THE LUMINESCENCE SPECTRA OF LANBO SUB4 MINUS ND PRIME3 POSITIVE SCANNED IN POLARIZED LIGHT. GENERATION OF FORCED RADIATION OCCURRED IN THE ACTIVATED SINGLE CRYSTALS AT A SINGLE FREQUENCY, 1.0624 MU. SHIFT TO 1.0622 MU OCCURRED ON HEATING OF THE CRYSTAL TO 300DEGREES.

UNCLASSIFIED

1/2 029 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--OPTICAL CONSTANTS, LUMINESCENCE, AND INDUCED RADIATION OF LANTHANUM
NIOBATE SINGLE CRYSTALS ACTIVATED BY NEODYMIUM -U-
AUTHOR--(05)-BAKHSHIYEVA, G.F., KARAPETYAN, V.YE., MOROZOV, A.M., MOROZOVA,
L.G., TOLSTOY, M.N. *K*
COUNTRY OF INFO--USSR
SOURCE--OPT. SPEKTROSK. 1970, 28(1), 76-81
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--SINGLE CRYSTAL, OPTIC PROPERTY, THERMAL EFFECT, LUMINESCENCE,
ANISOTROPY, LANTHANUM COMPOUND, NIOBATE, CRYSTAL STRUCTURE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1980/1315 STEP NO--UR/0051/70/028/001/0076/0081
CIRC ACCESSION NO--AP0049477
UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--APG049477

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LANBO SUB4 SINGLE CRYSTALS DIAM. 8-15, LENGTH 70 MM WERE ISOLATED FROM THE MELT AFTER HIGH TEMP. TREATMENT OF LANBO SUB4 IN INERT ATM. UNACTIVATED CRYSTALS AND CRYSTALS ACTIVATED WITH 1 MOLE PERCENT ND PRIME3 POSITIVE WERE STUDIED. UNACTIVATED CRYSTALS ARE TRANSPARENT IN THE RANGE 0.27-6.5MU; THE LIGHT ABSORPTION IN THE RANGE 6.5-9.0 MU CORRESPONDS TO THE VIBRATIONAL FREQUENCIES OF NBO SUB4 TETRAHEDRONS. N WAS OBTAINED AT 5 WAVELENGTHS IN THE RANGE 435.8-656.3 MMU. STRONG BIREFRINGENCE WAS OBSD. ACTIVATION OF THE SINGLE CRYSTALS WITH ND PRIME3 POSITIVE CAUSED STRONG ANISOTROPY OF THE CRYSTALS. LUMINESCENCE SPECTRA WERE RUN AT 77DEGREESK. THE LUMINESCENCE DURATION WAS 120 MUSEC AT ROOM TEMP.; IT DID NOT CHANGE ON HEATING OF THE ACTIVATED SINGLE CRYSTAL TO 250DEGREES. THREE AXIAL ELLIPSOIDS WERE CONSTRUCTED FOR THE SEP. LINES IN THE LUMINESCENCE SPECTRA OF LANBO SUB4 MINUS ND PRIME3 POSITIVE SCANNED IN POLARIZED LIGHT. GENERATION OF FORCED RADIATION OCCURRED IN THE ACTIVATED SINGLE CRYSTALS AT A SINGLE FREQUENCY, 1.0624 MU. SHIFT TO 1.0622 MU OCCURRED ON HEATING OF THE CRYSTAL TO 300DEGREES.

UNCLASSIFIED

1/2 010 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--REACTIONS OF DIETHYL ALKYLGLYCIDYLMALONATES WITH AMINES -U-
AUTHOR--(04)--MESROPYAN, E.G., KARAPETIAN, Z.T., AVETISYAN, D.V., DANGYAN,
H.T.
COUNTRY OF INFO--USSR
SOURCE--ARM. KHIM. ZH. 1970, 23,1, 45-8
DATE PUBLISHED--70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ALKYL RADICAL, AMINE, ALIPHATIC ESTER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1999/1940 STEP NO--UR/0426/70/023/001/0045/0048
CIRC ACCESSION NO--AP0123721
UNCLASSIFIED

2/2 010 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0123721
ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE TITLE ESTERS (I) WERE HEATED
WITH 1 EQUIV. DIALKYLAMINE AND 0.25 EQUIV. H SUB2 O 4 HR AT 40DEGREES TO
GIVE II (R, R PRIME), PERCENT YIELD, B SUB1, N 20 OVER D, AND M. P.
PICRATE GIVEN) SHOWN ON MICROFICHE. FACILITY: EREVAN. GOS.
UNIV., EREVAN, USSR.

UNCLASSIFIED

Acc. Nr.: AP0041006

Ref. Code: UR 0380

USSR

UDC: 534.374

KARAPETYAN, Zh. A.

"Determining the Stress State and Displacement Speeds in Electric Die-Casting Processes"

Moscow, Mashinovedeniye, No. 1, 70, pp 109-111

Abstract: The equipment for the electric die-casting of a strip is shown. It consists of an electrically heated strip fixed between an electrical contact and the die punch. As a result of the heating and the difference in speeds of the contact and the punch, the plastic deformation required for the process is consummated.

Reel/Frame

19750747

AP0041006.

This article provides a solution to the problem in the framework of the theory of a plane, quasi-static flow of an incompressible, ideally rigid, isotropic plastic medium. The temperature field of the plastic area is assumed to be uniform and invariant with time. Solution of the problem is derived from the system of equations describing a medium of this kind, a system which has two families of mutually orthogonal characteristic curves. These characteristics have a simple mechanical significance: they are the same as the lines of sliding. The author concludes by noting that the solution to this problem can be applied to the die-casting of fine pipes with internal shaping or polishing.

19750748

USSR

UDC: 51:801

ARAPOV, M. V., KARAPET'YANTS, A. M., MALINOVSKAYA, Z. M., PROBST, M. A.

"Some Problems in Deciphering K'itan Writing"

V sb. Issled. po mat. lingvist., mat. logike i inform. yazykam (Research on Mathematical Linguistics, Mathematical Logic and Information Languages--collection of works), Moscow, "Nauka", 1972, pp 79-95 (from RZh-Kibernetika, No 6, Jun 72, Abstract No 6V626)

Translation: Some of the work on studying K'itan texts is presented -- specifically, finding and classifying morphemes of K'itan word forms. K'itan texts in digital transcription served as the initial material.

The described work was made up of three main stages:

1. Division of blocks into fixed (the stem and possibly some word-forming suffixes) and variable (affixes) parts, establishing identities between a number of symbols, finding stable symbol combinations, and classification of post-fixal morphemes on the basis of their co-occurrence range.
2. Carrying out a formal procedure for dividing the variable parts into classes based on the division of blocks into variable and fixed parts, using the material of the first stage.

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- 79 -

USSR

ARAPOV, M. V. et al., Issled. po mat. lingvist., mat. logike i inform. yazykam, Moscow, "Nauka", 1972, pp 79-95

3. Classification of the variable and fixed parts of blocks in accordance with membership in a nominal or verbal paradigm on the basis of materials of the first stage, utilization of "parallel" passages in the texts, and by comparison with the Mongolian language. In this stage another division of blocks is used (based on the first, but differently constructed). Nearly all stages of the work, particularly the first, were characterized by iterative processes: new governing principles were used to refine those previously found. From the introduction.

USSR

UDC 621.316.(001.1+003.13)

ASTAKHOV, YU. N., GORDIYEVSKIY, I. G., KARASEV, D. D.

"Economical Proportionality in the Electric Power Supply Systems of Municipal Rayons"

V sb. Tekhn. progress v elektrosnabzh. gorodov (Technical Progress in Electric Power Supply of the Cities -- collection of works), Leningrad, Energiya Press, 1970, pp 184-186 (from RZh-Elektrotehnika i Energetika, No 4, Apr 71, Abstract No 4 Ye 273)

Translation: The economically expedient relations between expenditures on individual elements corresponding to the minimum calculated expenditures for the electric power supply systems of a new municipal rayon are defined. The relations obtained are recommended for estimating the economy of plans developed for electric power supply system construction and design. The bibliography has 7 entries. [Moscow Power Engineering Institute]

1/1

- 126 -

USSR

UDC 621.762.001:669.27

TRET'YAKOV, V. I., PIVOVAROV, L. Kh., NOVIKOVA, M. B., LIJDER, V. Ya.,
NOVIKOVA, T. A., VRZHESHCH, Ye. Ya., and KARASEV, G. F.

"Influence of Surface Layer on Plates of Titanium-Tungsten Hard Alloys
on Wear Resistance During Cutting"

Sb. tr. Vses. n.-i. i proyekt. in-t tugoplavk. met. i tverd. splavov
[Collected Works of All-Union Scientific Research and Planning Institute
for Refractory Metals and Hard Alloys], No. 10, 1970, pp. 55-60
(Translated from Referativnyy Zhurnal-Metallurgiya, No. 2, 1971, Abstract
No. 2 G413 by the authors)

Translation: Results are described from determination of the resistance
factor to cutting of specimens of titanium-tungsten hard alloys, when
layers of altered composition and structure are formed on the cutting
edges with certain sintering modes. It is established that the presence
of surface layers on the cutting edges of the cutting plates increases
their wear resistance during cutting by an average of 1.6 times.
2 figures; 2 tables; 3 biblio. refs.

1/1

- 33 -

1/2 025 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--THERMODYNAMIC PROPERTIES OF MIXED SOLUTIONS OF ELECTROLYTES. VII.
INFLUENCE OF THE NATURE OF ION HYDRATION ON THE SIGN OF THE HEAT OF
AUTHOR--(03)--KARAPETYANTS, N.KH., VLASENKO, K.K., SOLOVYEVA, S.G.

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(2) 541

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THERMODYNAMIC PROPERTY, ELECTROLYTIC SOLUTION, AQUEOUS
SOLUTION, SILVER NITRATE, SODIUM NITRATE, POTASSIUM NITRATE, ENDOTHERMIC
EFFECT, EXOTHERMIC EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FKAME--1989/0469

STEP NO--UR/0076/70/044/002/0541/0541

CIRC ACCESSION NO--AP0107075

UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0107075

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE HEAT OF MIXING DELTS H SUBM WAS DETD. FOR THE SYSTEMS AQ. AGNO SUB3 PLUS AQ. NANO SUB3 (SYSTEM 1) AND AQ. AGNO SUB3 PLUS AQ. KNO SUB3 (SYSTEM 2), AT ISOMOLAR CONDITIONS AND 25DEGREES. SYSTEM (1) WAS EXOTHERMIC (DELTA H SUBM EQUALS NEGATIVE 11 AND NEGATIVE 27 KCAL-MOLE FOR THE CONCNS. 1.0 AND 3.5 M, RESP.), WHILE SYSTEM (2) WAS ENDOTHERMIC (DELTA H SUBM EQUALS 9 AND 20 KCAL-MOLE, RESP., FOR THE ABOVE CONCNS.). THE DATA INDICATE THAT THE AG PRIME POSITIVE ION EXHIBITS A STRUCTURIZING EFFECT ON THE SOLUTE IN CONCD. SOLNS.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--TEMPERATURE DEPENDENCE OF THE VAPOR PRESSURE OF
TRISDIETHYLAMINOCHLOROGERMANE AND TRIETHYLDIETHYLAMINOGERMANE -U-
AUTHOR-(03)-GONCHAROV, A.K., KARAPETYANIS, M.KH., KOLYAKOVA, G.M.
COUNTRY OF INFO--USSR
SOURCE--ZH. FIZ. KHIM. 1970, 44(3), 832
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--VAPOR PRESSURE, ENTROPY, CYCLOHEXANE, THERMAL EFFECT,
MATHEMATIC EXPRESSION, AMINE DERIVATIVE, CHLORINATED ORGANIC COMPOUND,
ORGANOGERMANIUM COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3004/2040 STEP NO--UR/0076/70/044/003/0832/0832
CIRC ACCESSION NO--AP0132297

UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0132297

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HNET SUB2 REACTED WITH GECL SUB4 IN CYCLOHEXANE TO GIVE (ET SUB2 N) SUB3 GECL (I). BY STATIC AND DYNAMIC METHODS THE VAPOR PRESSURE OF I AT 90-220DEGREES WAS DETD. TO SATISFY THE EQUATION $\log RHO = A - B / (C + T)$ WHERE A EQUALS 6.99841, B EQUALS 1841.2414, C EQUALS 174.95, AND TAU IS THE TEMP. (DEGREESC). EXTRAPOLATED B.P. OF I WAS 272.2DEGREES, AND DELTAETA PRIME760 SUBVAP EQUALS 12.5 KCAL PER MOLE, DELTAS PRIME760 SUBVAP EQUALS 22.9 EU. FOR ET SUB3 GENET SUB2 (II) A EQUALS 7.41782, B EQUALS 1984.0035 AND C EQUALS 229.98. EXTRAPOLATED B.P. OF II IS 207.3DEGREES, DELTAETA PRIME760 SUBVAP EQUALS 11 KCAL PER MOLE, AND DELTAS PRIME760 SUBVAP EQUALS 22.9 EU. FACILITY: MOSK. KHIM.-TEKHNOL. INST. IM. MENDELEEVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

KARAPETYANTS, N. K.; SAMKO, S. G. (Rostov-on-Don State University)

"Singular Integral Operators on a Line with a Fractional Linear Shift and the Noether Theory of Operators with Involution"

Yerevan, Izvestiya Akademii Nauk Armyanskoy SSR: Matematika; January-February, 1972; pp 68-77

Abstract: A general scheme of investigation of the operators $A + QB$ with involution $Q(Q^2=I)$ in Banach spaces is proposed and applied to the singular integral operator $(K\varphi)(x) = a(x)\varphi(x) + b(x)\varphi[\tau(x)] + c(x)(S\varphi)(x) + d(x)(S\varphi)[a(x)]$,

where $(S\varphi)(x) = \frac{1}{\pi i} \int_{-\infty}^{\infty} \varphi(t)(t-x)^{-1} dt$ and $a(x)$ is a fractional linear shift of the

Carleman type: $a[\tau(x)] = x$. The weight L_p -space is found in which the Noether theory is valid for operator K . The condition for operator K to be Noetherian as well as the formula for the index are found.

The article includes 17 equations. There are 9 bibliographic references.

1/1

1/2 014 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--EVALUATING THE PLASTIC PROPERTIES OF NAIRIT -U-

AUTHOR--(03)--KARAS, L.YA., KINDER, A.V., SAVELYEVA, L.I.

COUNTRY OF INFO--USSR

SOURCE--KAUCH. REZINA 1970, 29(2), 15-17

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--CHLOROPRENE, PLASTICITY, RUBBER WORKING MACHINERY, SYNTHETIC
RUBBER/(U)NAIRIT SYNTHETIC RUBBER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0459

STEP NO--UR/0138/70/029/002/0015/0017

CIRC ACCESSION NO--AP0119395

UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119395

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A METHOD WAS DEVELOPED FOR DETG. THE MILLING CONDITIONS OF NAIRIT (I) FROM LAB. TESTS BY USING I OF INITIAL PLASTICITY (P SUB0) AND FINAL PLASTICITY (P SUB2) AFTER MILLING I BETWEEN ROLLERS 2 MM APART. THE DIFFERENCE P SUB2-P SUB0 OFFERED A MEANS TO DET. THE EMPIRICAL MILLING CONSTS. FOR 26 AND 60 IN. MILLS. THE EXPTL. DATA AGREED WITH THE CALCD. RESULTS. FACILITY: SVERDLOVSK. FILIAL NAUCH.-ISSLED. INST. REZIN PROM., SVERDLOVSK, USSR.

UNCLASSIFIED

1/2 : 024 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--ELECTRICAL AND OPTICAL PROPERTIES OF ALLOYS OF THE (CUINTE SUB2)
SUB3(INEGATIVEX)-(IN SUB2 TE SUB3) SUB2X AND (CUGATE SUB2)
AUTHOR--(05)-KOSHKIN, V.M., NESTEROVA, T.N., GALCHINETSKIY, L.P.,
SKLOVSKAYA, I.L., KARAS, V.R.
COUNTRY OF INFO--USSR

SOURCE--UKR. FIZ. ZH. (RUSS. ED.) 1970, 15(2), 210-16

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--OPTIC PROPERTY, TELLURIDE, INDIUM COMPOUND, ELECTRIC PROPERTY,
SEMICONDUCTOR ALLOY, SEMICONDUCTOR MATERIAL, GALLIUM COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1996/1938

STEP NO--UR/0185/70/015/002/0210/0216

CIRC ACCESSION NO--AP0118900

UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0118900

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ELEC. COND. SIGMA, MOBILITIES MU, CONC. OF THE MAIN CARRIERS N, AND THE OPTICAL ENERGY GAP (E SUB0) OF SEMICONDUCTING ALLOYS OF THE (CUINTE SUB2) SUB3(INEGATIVEX) --(IN SUB2 TE SUB3) SUB2X AND (CUGATE SUB2) SUB3(INEGATIVEX) --(GA SUB2 TE SUB3) SUB2X SYSTEMS WERE INVESTIGATED. VALUES FOR BAND BAND TRANSISTIONS ENERGY WERE DETD. THE METHOD CONSISTS OF BUILDING THE DIFFERENTIAL CURVES $\partial \epsilon / \partial E$ EPSILON (EPSILON) AND $\partial(1-K)/\partial E$ EPSILON (EPSILON), WHERE K IS THE ABSORPTION COEFF. AND, EPSILON IS THE PHOTON ENERGY. APPLICATION OF THIS METHOD PERMITS SPLITTING THE VALENCE BAND IN THE ALLOYS WITH THE CHALCOPYRITE LATTICE TO BE FOUND. ALL TRANSITIONS ARE CONSIDERED DIRECT AND ALLOWED. PERCULARITIES IN THE CURVES E SUB0 (X) ARE CONNECTED WITH THE CHANGE IN THE CRYSTAL STRUCTURE FROM CHALCOPYRITE TO SPHALERITE. THE DEPENDENCE OF N, SIGMA, E SUB0 IN THE ABOVE SYSTEMS SHOWS THEIR DEVIATION FROM THE PSEUDORINARITY. THIS INCREASES N AND SIGMA IN THE ALLOYS WITH SMALL VALUES OF X COMPARED TO THAT N AND SIGMA IN THE ALLOYS WITH X EQUALS 0. THE RISE OF N CAUSES DEGENERATION OF THE FREE CARRIER GAS AND RESULTS IN THE BURSTAINIE EFFECT. FACILITY: VNII MONOKRIST., KHARKOV, USSR.

UNCLASSIFIED